

ABSTRACT

There is disclosed a process for producing an ammonium polythiomolybdate of the formula $(\text{NH}_4)_2\text{Mo}_3\text{S}_{13} \cdot n \text{H}_2\text{O}$ where n is 0, 1 or 2 comprising reacting an aqueous ammoniacal molybdate solution with hydrogen sulfide gas at superatmospheric pressure until the H_2S is no longer absorbed by the solution, said solution and said gas being in a closed system and the flow of said gas being regulated at an elevated pressure to form a slurry consisting essentially of a solid essentially all of which is ammonium tetrathiomolybdate and thereafter heat soaking the reaction product at elevated temperatures to form the desired product.